

**WHAT IS CLAIMED IS:**

1           1. A method for fault tolerance, load balance and failover of CORBA object servers,  
2 comprising the steps of:

3                   invoking a cluster contained in a context;

4                   performing a load balance to select an object server located in the  
5 invoked cluster;

6                   appending a cluster component to the invoked cluster to provide failover  
7 upon failure of the object server;

8                   forwarding a selected object reference to a client upon completion of the  
9 load balance; and

10                  communicating with a server associated with the selected object  
11 reference which was forwarded to the client.

1           2. The method of claim 1, said invoking step comprising the step of:

2                   binding to the server using an IP Address and port number  
3 contained in the specific object reference.

1           3. The method of claim 2, further comprising the steps of:

2                   indicating to a user whether bind interceptors are in use;

3 providing the user with a class having relevant methods if bind  
4 interceptors are in use; and

5 specifying the class such that the class contains the most relevant  
6 methods, said specification being performed at a discretion of the user.

1 4. The method of claim 3, further comprising the steps of:

2 checking the bind interceptors if the object server fails; and  
3 selecting an alternative server if a bind interceptor contains a  
4 predetermined method; said selection being performed by the user upon entry  
5 of the predetermined method by the user.

1 5. The method of claim 4, further comprising the steps of:

2 intercepting a cluster component of the object server which failed based  
3 on the bind interceptor;  
4 invoking a load balance algorithm of the cluster via the bind interceptor  
5 to select and return a new object reference located in the cluster to the client;  
6 establishing communications with the client and a server of the new  
7 object reference; and  
8 marking the failed object server to indicated failure thereof.

1           6. The method of claim 5, further comprising the step of:

2                 removing the marked failed object server from the cluster.

1           7. The method of claim 4, wherein the predetermined method is Bind\_Failed.

1           8. The method of claim 3, wherein the most relevant methods are one of Bind,

2 Bind\_Succeeded and Bind\_Failed.

1           9. The method of claim 1, further comprising the step of:

2                 specifying a load balance algorithm upon creation of a naming service

3                 cluster to perform name service load balancing of object references contained

4                 within the clusters.

1           10. The method of claim 1, wherein said load balancing is performed based on a

2                 predetermined method.

1           11. The method of claim 4, wherein the predetermined method is a Round robin load

2                 balancing algorithm.

3           12. The method of claim 1, wherein said load balancing is performed based on a

4                 predetermined method.

1 13. The method of claim 12, wherein the predetermined method is a Round robin load  
2 balancing algorithm.

1 14. The method of claim 1, wherein each cluster contains an object binding table which  
2 contains object references;  
3 wherein each object server reference represents a single server.

1 15. A method for fault tolerance, load balance and failover of CORBA object servers,  
2 comprising the steps of:  
3 setting a flag in a file to activate implicit clustering;  
4 invoking a cluster contained in a context having clusters;  
5 performing a load balance to select an object server located in the  
6 clusters;  
7 forwarding a selected object reference to a client upon completion of the  
8 load balance; and  
9 communicating with the server associated with the selected object  
10 reference which was forwarded to the client.

11 16. The method of claim 15, wherein the file is a configuration file.

1 17. The method of claim 15, said invoking step comprising:  
2 binding to the server using an IP Address and port number  
3 contained in the specific object reference.

1 18. The method of claim 15, wherein said load balancing is performed based on a  
2 predetermined method.

1 19. The method of claim 18, wherein the predetermined method is a Smart Round  
2 Robin load balancing algorithm.

1 20. The method of claim 15, wherein object reference binding having identical names  
2 are clustered together in common clusters such that a common group of object reference binders  
3 servers is created.

1 21. The method of claim 20, further comprising the step of:  
2 specifying a load balance algorithm to perform load balancing of object  
3 references contained within the common group of group of object reference  
4 binders.

- 1            22. The method of claim 21, wherein initially the load balance algorithm is Smart
- 2   Round Robin.